

**METHODS FOR IMPLEMENTING VIRTUAL BASES
WITH FIXED OFFSETS IN OBJECT ORIENTED APPLICATIONS**

ABSTRACT OF THE INVENTION

There is provided a method for implementing virtual
5 bases with fixed offsets in a class hierarchy graph
corresponding to an object oriented program. The graph has
nodes representing object classes and edges representing
immediate inheritance therebetween. The method includes the
step of determining whether a set N is empty, the set N
10 including all nodes in the graph. A node x is removed from
the set N, when the set N is not empty. It is determined
whether a set Y is empty, the set Y including nodes that
directly and virtually inherit from the node x. A return is
made to the step of determining whether the set N is empty,
15 when the set Y is empty. A node y is removed from the set
Y, when the set Y is not empty. It is determined whether
the node y is duplicated in the graph. A return is made to
the step of determining whether the set Y is empty, when the
node y is duplicated. An edge e is replaced with an edge
20 e', when the node y is not duplicated. The edge e
represents that the node y virtually inherits from the node
x. The edge e' represents that the node x has a fixed
offset with respect to the node y. A return is made to the

step of determining whether the set N is empty, upon replacing the edge e .